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REVIEW OF WHOLESALE ELECTRIC MARKET DESIGN	**§**	**PUBLIC UTILITY COMMISSION**
	§	
	§	**OF TEXAS**

JUPITER POWER LLC'S RESPONSE
TO STAFF'S DISCUSSION DRAFT AND QUESTIONS FOR COMMENT

Jupiter Power LLC ("Jupiter Power") appreciates the opportunity to submit its comments on Commission Staff's August 2, 2021 questions for comments relating to wholesale electricity market design, and is prepared to respond to further inquiries by Staff or comments submitted by other stakeholders. Jupiter Power is an owner/operator of energy storage assets within the ERCOT region and therefore would be directly impacted by the proposed regulations.

I. EXECUTIVE SUMMARY

Historically the ERCOT wholesale electricity market design has endeavored to reliably provide for the delivery of power to electricity users from an economical and diverse resource base. The events of this past year however have highlighted the limitations by which market design based on 'status quo' assumptions may fail to meet the needs of electricity market users – it is incumbent therefore upon market stakeholders to ensure that market design appropriately evolves to take full advantage of new electricity technologies such as energy storage, the flexibility and responsiveness of which makes it an extremely effective resource under both 'normal' and 'unplanned' operating conditions. As this market design review process gets underway, we look forward to supporting the efforts to evaluate how all resources, ranging from traditional thermal plant to more recent resource-entrants such as energy storage and distributed energy resources, can be integrated into a market design based on the core tenets of reliability, flexibility and economy.

II. RESPONSES TO QUESTIONS

Jupiter Power offers the following high-level responses to the questions posed by Commission Staff in its August 2, 2021 memorandum.

1. *What specific changes, if any, should be made to the Operating Reserve Demand Curve (ORDC) to drive investment in existing and new dispatchable generation? Please consider ORDC applying only to generators who commit in the day-ahead market (DAM). Should that amount of ORDC-based dispatchability be adjusted to specific seasonal reliability needs?*

The ORDC should be structured such that resources are appropriately incentivized and rewarded for their availability to meet demand as the system is under increasing levels of stress, ultimately rising to the point of 'scarcity'. The need for such responsiveness does not necessarily show up in the DAM however, or alternatively may be incorrectly 'planned' to apply for certain hours the next day, which do not always align with the most urgent real-time shortfall hours. The market design must recognize the benefit of having dispatchable supply options available in real-time to address capacity shortage situations - some of which may be dispatched by ERCOT upon at a moment's notice, such as energy storage. Recognition of the greater market efficiency derived from the incorporation of real-time supply and demand into market design outcomes has been the subject of much evaluation and assessment through ERCOT's Real-time Co-optimization stakeholder process, and we would strongly advocate that the ORDC mechanism continue to incorporate the valuable impact of real-time reserve availability.

2. *Should ERCOT require all generation resources to offer a minimum commitment in the day-ahead market as a precondition for participating in the energy market?*
    a. If so, how should that minimum commitment be determined?
    b. How should that commitment be enforced?

One of the core tenets of the current ERCOT market design is the optionality granted to resource owner/operators to determine how to manage their resource, either through bilateral

contracting, and/or participation in the day-ahead market as a hedge against volatility in the next day's real-time market, and/or activity in the real-time market depending on the outcome of real-time conditions. Providing this optionality ensures that resource operating decisions and financial considerations are managed by the parties who are most familiar with a resource's availability. The instigation of a minimum DAM commitment would serve to severely blunt this optionality, potentially taking away the autonomy of resource owners to manage their resource economics in accordance with their investment obligations. From the perspective of maximizing the contribution of energy storage within overall system dispatch and operation, it is possible that prescribing how an energy storage asset should be used, such as requiring a minimum commitment in the DAM, would severely restrict the benefits which an energy storage can offer to a grid, such as the ability to quickly respond to volatile real-time conditions, thus providing a level of capacity flexibility which cannot be replicated by more traditional generating units.

3. *What new ancillary service products or reliability services or changes to existing ancillary service products or reliability services should be developed or made to ensure reliability under a variety of extreme conditions? Please articulate specific standards of reliability along with any suggested AS products. How should the costs of these new ancillary services be allocated.*

The advent of new electricity resources such as energy storage paves the way for an expansion of the types of ancillary services which the market may wish to consider, along with an expansion of the set of resources which are available to supply the existing set of ancillary services – for example, the response time of a battery energy storage system makes it an extremely effective resource for arresting frequency decline; similarly, the flexibility of energy storage systems render them very well-suited resources to provide load-following or regulation reserve. Whilst we believe that the introduction of any new product must not to be to the detriment of market and investor confidence in the current market framework, we are interested to further explore within the

stakeholder discussion process what are those new ancillary service attributes which could deliver value to the grid, and how these may be incorporated into new AS product types. Crucially the design of any ancillary service product, both existing and future, should facilitate the supply of that product by all capable resources, regardless of technology-type.

4. *Is available residential demand response adequately captured by existing retail electric provider (REP) programs? Do opportunities exist for enhanced residential load response?*

Jupiter Power reserves comment on this question at this time

5. *How can ERCOT's emergency response service program be modified to provide additional reliability benefits? What changes would need to be made to Commission rules and ERCOT market rules and systems to implement these program changes?*

Jupiter Power reserves comment on this question at this time

6. *How can the current market design be altered (e.g., by implementing new products) to provide tools to improve the ability to manage inertia, voltage support, or frequency?*

In line with our comment to Q3 above, we are eager to explore the potential to introduce new product types which take advantage of the technological advancements that are integral to new resource-entrants such as energy storage, and which can deliver additional value to the grid. A core discussion point will be how such new products are appropriately valued and paid for, since some of these features (e.g. inertia) may be available from participating market resources, but without proper valuation will not be made available for the market's wider benefit.

III. CONCLUSION

Jupiter Power appreciates the opportunity to submit these comments for the Commission's consideration, and looks forward to continuing to work with all stakeholders in this Project.

Respectfully Submitted,

JUPITER POWER LLC.

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Chief Operating Officer